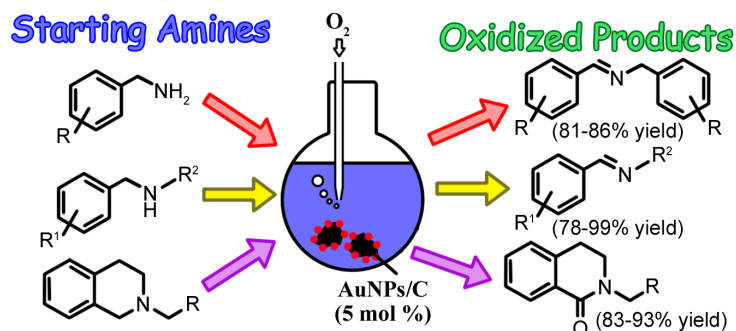


Aerobic Oxidation of Benzylic Amines to Imines Catalyzed by Graphite-Supported Gold Nanoparticles

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The use of oxygen as oxidant for the selective oxidative transformation of organic compounds is an appealing approach in the sense of green chemistry.¹ In this presentation, we describe graphite-supported gold nanoparticles (AuNPs/C) as an efficient catalyst for the aerobic oxidation of cyclic and acyclic benzylic amines to the corresponding imines with moderate-to-excellent substrate conversions (43-100%) and product yields (66-99%).² In addition, oxidation of *N*-substituted 1,2,3,4-tetrahydroisoquinolines in the presence of aqueous NaHCO₃ solution gave the corresponding amides in good yields (83-93%) with high selectivity (up to amide:enamide = 93:4) (6 examples). The same protocol can also be applied to the synthesis of benzimidazoles from the reaction of *o*-phenylenediamines with benzaldehydes under aerobic conditions (8 examples). By simple centrifugation, AuNPs/C can be recovered and reused for ten consecutive runs without significant loss of catalytic activity and selectivity. This protocol "AuNPs/C + O₂" can be easily scaled to grams scale.

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